

The Science of Energy Balance: Calorie Intake and Physical Activity		
North Carolina Standard Course of Study - Science: Grades 6, 7, 8		
Lesson	Competency Goal	Description
1, 2, 3, 4	1.01	Identify and create questions and hypotheses that can be answered through scientific investigations.
1, 2, 4	1.02	Develop appropriate experimental procedures for: given questions and student generated questions.
3, 4	1.03	Apply safety procedures in the laboratory and in field studies: recognize potential hazards, manipulate materials and equipment, and conduct appropriate procedures.
1, 3, 4	1.04	Analyze variables in scientific investigations: identify dependent and independent, use of a control, manipulate, describe relationships between, and define operationally.
1, 2, 3, 4	1.05	Analyze evidence to: explain observations, make inferences and predictions, and develop the relationship between evidence and explanation.
3, 4	1.06	Use mathematics to gather, organize, and present quantitative data resulting from scientific investigations: measurement, analysis of data, graphing, and prediction models.
All lessons	1.07	Prepare models and/or computer simulations to: test hypotheses and evaluate how data fit.
1, 3, 4	1.08	Use oral and written language to: communicate findings and defend conclusions of scientific investigations.
3, 4	1.09	Use technologies and information systems to: research, gather and analyze data, visualize data, and disseminate findings to others.
5	1.10	Analyze and evaluate information from a scientifically literate viewpoint by reading, hearing, and/or viewing: scientific text, articles, and events in the popular press.
4	2.02	Use information systems to identify scientific needs, human needs, or problems that are subject to technological solution.
3, 4	4.05	Analyze how an imbalance in homeostasis may result from a disruption in any human system. (7)
All lessons	4.07	Explain the effects of environmental influences on human embryo development and human health including diet. (7)
All lessons	4.08	Explain how understanding human body systems can help make informed decisions regarding health. (7)

Source: <http://www.ncpublicschools.org/curriculum/ncscos>

All alignments are based on the curriculum standards as of 08/06.

**NORTH CAROLINA ALIGNMENT FOR NIH SUPPLEMENT: THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY**

1, 2, 3, 5	5.06	Evaluate evidence that human characteristics are a product of inheritance, environmental factors, and lifestyle choices. (7)
1, 2	7.02	Investigate factors that determine the growth and survival of organisms including energy. (6)
<b>North Carolina Standard Course of Study – Mathematics: Grades 6, 7, 8</b>		
<b>Lesson</b>	<b>Competency Goal</b>	<b>Description</b>
2, 3, 4	1.01	Develop and use ratios, proportions, and percents to solve problems. (7)
2, 3, 4	1.02	Develop meaning for percents: connect the model, number word, and number using a variety of representations and make estimates in appropriate situations. (6)
1, 2, 3, 4	1.02	Develop fluency in addition, subtraction, multiplication, and division of non-negative rational numbers: analyze computational strategies, describe the effect of operations on size, estimate the results of computations, and judge the reasonableness of solutions. (7)
1, 2, 3, 4	1.02	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil. (8)
1, 2, 3, 4	1.03	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil. (7)
1, 2, 3, 4	1.04	Develop fluency in addition, subtraction, multiplication, and division of non-negative rational numbers: analyze computational strategies, describe the effect of operations on size, estimate the results of computations, and judge the reasonableness of solutions. (6)
1, 2, 3, 4	1.07	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil. (6)
3, 4, 5	4.01	Collect, organize, analyze, and display data to solve problems. (7 & 8)
3, 4	4.05	Solve problems involving two or more sets of data using appropriate statistical measures. (7)
3, 4	4.06	Design and conduct experiments or surveys to solve problems; report and analyze results. (6)
3, 4	5.01	Identify, analyze, and create linear relations, sequences, and functions using symbols, graphs, tables, diagrams, and written descriptions. (7)
3, 4	5.03	Use and evaluate algebraic expressions, linear equations or inequalities to solve problems. (7 & 8)
3, 4	5.04	Use graphs, tables, and symbols to model and solve problems involving rates of change and ratios. (6)

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**NORTH CAROLINA ALIGNMENT FOR NIH SUPPLEMENT: THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY**

<b>North Carolina Standard Course of Study – English Language Arts: Grades 6, 7, 8</b>		
<b>Lesson</b>	<b>Competency Goal</b>	<b>Description</b>
<b>All lessons</b>	<b>1.03</b>	Interact appropriately in group settings by: listening attentively, showing empathy, contributing relevant comments connecting personal experiences to content, monitoring own understanding of the discussion and seeking clarification as needed (6), responding appropriately to comments and questions, offering personal opinions confidently without dominating, giving appropriate reasons that support opinions, soliciting and respecting another person’s opinion (7), shares personal reactions to questions raised, gives reasons and cites examples from text in support of expressed opinions, and clarifies, illustrates, or expands on a response when asked to do so, and asks classmates for similar expansion. (8)
<b>3, 4, 5</b>	<b>1.04</b>	Reflect on learning experiences by: describing personal learning growth and changes in perspective, identifying changes in self throughout the learning process, and interpreting how personal circumstances and background shape interaction with text.
<b>3, 4, 5</b>	<b>3.02</b>	Explore and analyze the problem-solution process by: studying problems and solutions within various texts and situations, utilizing the problem-solution process within various contexts/situations, constructing essays/presentations that respond to a given problem by proposing a solution that includes relevant details, and recognizing and/or creating an organizing structure appropriate to purpose, audience, and context. (7 & 8)
<b>3, 4, 5</b>	<b>3.03</b>	Evaluate and create arguments that persuade by: understanding the importance of the engagement of audience by establishing a context, creating a persona, and otherwise developing interest, noting and/or developing a controlling idea that makes a clear and knowledgeable judgment, arranging details, reasons, and examples effectively and persuasively, anticipating and addressing reader/listener concerns and counterarguments, and recognizing and/or creating an organizing structure appropriate to purpose, audience, and context. (7 & 8)
<b>North Carolina Standard Course of Study – Healthful Living: Grades 6, 7, 8</b>		
<b>Lesson</b>	<b>Competency Goal</b>	<b>Description</b>
<b>All lessons</b>	<b>1.01</b>	Use a structured thinking process to make decisions and solve problems. (6)
<b>5</b>	<b>2.03</b>	Evaluate the accuracy and significance of media reports on health and medical research. (8)
<b>1, 2, 5</b>	<b>2.06</b>	Appraise personal health status. (8)

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**NORTH CAROLINA ALIGNMENT FOR NIH SUPPLEMENT: THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY**

<b>All lessons</b>	<b>3.02</b>	Demonstrate effective verbal and nonverbal communication skills. (6)
<b>2, 3</b>	<b>4.02</b>	Identify appropriate serving sizes for foods and beverages in each food group and explain how to plan for proper proportions in a healthy eating plan. (7)
<b>2, 5</b>	<b>4.02</b>	Analyze barriers to personal healthful eating patterns and describe strategies for overcoming these barriers. (8)
<b>3, 4, 5</b>	<b>4.03</b>	Justify why obesity is classified as a disease and explain how it can be a risk factor for other diseases. (6)
<b>2, 3</b>	<b>4.05</b>	Summarize the Dietary Guidelines for Americans and explain the implications on eating behavior. (6)
<b>3</b>	<b>4.05</b>	Differentiate between positive and negative body image, and describe the importance of a positive body image. (7)
<b>2, 3, 4, 5</b>	<b>4.06</b>	Predict the short and long-term benefits of healthy eating. (6)
<b>3</b>	<b>4.06</b>	Demonstrate how to balance caloric intake with caloric expenditure to maintain, gain, or reduce weight in a healthy manner. (8)
<b>1, 3</b>	<b>4.07</b>	Summarize the recommended amounts and types of physical activity for adolescents and adults. (7)
<b>1, 3, 5</b>	<b>4.08</b>	Identify ways to increase daily physical activity and decrease inactivity. (7)
<b>All lessons</b>	<b>4.09</b>	Analyze the relationships between food consumption, physical activity levels, and body weight. (6)
<b>1, 4</b>	<b>4.10</b>	Identify physical activities that contribute to maintaining to improving the components of health related fitness (strength, endurance, flexibility). (6)
<b>1, 3, 4, 5</b>	<b>4.10</b>	Analyze and explain the benefits of physical activity (physical, social, and emotional). (8)
<b>1, 3, 4, 5</b>	<b>7.04</b>	Determine the link between physical activity and weight control. (7)
<b>1, 3, 4, 5</b>	<b>8.01</b>	Evaluate the benefits and value of various physical activities for personal fitness programs. (8)
<b>5</b>	<b>8.03</b>	Set realistic physical activity goals and strive to attain them through participation in physical activity of own choosing. (6)
<b>1, 3, 4, 5</b>	<b>8.04</b>	Demonstrate the importance and value of regular physical activity. (7)
<b>1, 3, 4, 5</b>	<b>9.04</b>	Explain the relationship between physical activity, nutrition, and adequate rest/sleep and weight management. (8)
<b>All lessons</b>	<b>10.03</b>	Utilize time effectively to complete assigned tasks. (6)
<b>All lessons</b>	<b>10.04</b>	Work cooperatively and productively in a group to accomplish a set goal in both cooperative and competitive activities. (6 & 8)

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